STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forestland proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **Tollgate** *Agreement #:* **30-076208**

2. Name of applicant: **Department of Natural Resources**

3. Address and phone number of applicant and contact person:

   Pacific Cascade Region
   601 Bond Road
   PO Box 280
   Castle Rock, Washington 98611-0280
   Phone: (306) 274-2035
   Contact Person: Eric Wisch

4. Date checklist prepared: **March 2004**

5. Agency requesting checklist: **Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* **FY-2005**
   b. *Planned contract end date (but may be extended)* **FY-2007**
   c. *Phasing:*

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Yes

   Timber Sale

   a. *Site preparation:* **Site preparation will be conducted during harvest and post harvest as needed.**
   b. *Regeneration Method:* **The site will be planted post harvest with commercial species.**
   c. *Vegetation Management:* **Surveys will be conducted to see if treatment is necessary.**
   d. *Thinning:* **Pre-commercial and commercial thinnings may be done in the future.**

   Roads: **Road maintenance assessments will be conducted annually and may include periodic ditch and culvert cleanout, and road grading as necessary.**

   Rock Pits and/or Sale: **The pit will be maintained in a safe condition with proper drainage. The rock pit may be used for other current or future projects in the vicinity.**

Other: **Direct sale of firewood from the sale area may occur following harvest completion. Firewood salvage of logging residue may occur following harvest.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐*303 (d) – listed water body in WAU:* ☐*temp.* ☐*sediment* ☐*completed TMDL (total maximum daily load):*
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* **Road Plan available at Pacific Cascade Region**
☐*Wildlife report:*
☐*Geotechnical report:*
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* **Road Plan available at Pacific Cascade Region**
☒*Other:* **Spotted owl habitat mapping, Forest Practices Activity Maps, Forest Resource Plan (DNR, July 1992), State soil survey, DNR GIS databases, Habitat Conservation Plan (January, 1997), HCP Checklist, Planning and Tracking Special Concerns Report and associated maps.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No

10. List any government approvals or permits that will be needed for your proposal, if known.

☒*HPA:* **Blanket HPA for Type 4 and 5 waters** ☐*Burning permit*
☐*Shoreline permit*
☒*Incidental take permit* **1168 and PRT-812521** ☒*FPA.* ☐ *Other:*

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. Complete proposal description:

Sale of Timber
Estimated Total Volume: 2434 MBF
Unit 1: 1200 MBF
Unit 2: 1140 MBF
Unit 3: 90 MBF
Right-of-Way: 4 MBF

Unit area (acres):

Unit 1: Gross Proposal Acres: 52 (includes nine acres of leave trees on potentially unstable slopes/rock outcrops/cliff formations)
Leave Tree Acres: 14
RMZ Acres: 3
Net Harvest Acres: 35

Unit 2: Gross Proposal Acres 42
Leave Tree Acres: 3
RMZ Acres: 4
Net Harvest Acres: 35

Unit 3: Gross Proposal Acres: 7
Leave Tree Acres: < .25
RMZ Acres: 4 acres
Net Harvest Acres: 3

Other: Total Right-of-way acres: 4

Total Proposal Area Acres (Gross): approximately 105
Total Leave Tree acres: 17
Total RMZ Acres: 11 acres
Total Net Harvest acres: 77

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

Overall Unit Objective: The primary objective of this timber harvest is to provide financial benefit to trust beneficiaries and manage the area for continued timber management.

Pre-harvest Stand Description: The forest stands have an average age of 55 to 60 years. The stands contain mixed conifer and hardwood species. Douglas-fir is the dominant conifer species. Younger, naturally generated alder and fir stands exist adjacent to units 2 and 3.

Harvest Systems: This is a regeneration harvest with cable and shovel harvest systems to be used to harvest the units.

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Roadwork is outlined below, with site-specific details in the timber sale road plan available at the Pacific Cascade Region office.

Road Narrative: Two new roads are planned for this proposal. Spur A is approximately 1,200-feet long. The N-3015 road is approximately 3,800-feet long. Spur A will be used for this sale and abandoned after harvest. Portions of the N-3015 will remain open and used for future land management activities. There are no live water crossings associated with the road construction. Maintenance will be conducted on the N-2000 (2000 feet). Construction will entail simple cut and fill design. Portions of the existing N-2000 and N-3000 may be used as landing locations. Up to 300-feet of new construction may be built by purchaser for landing locations. This will allow for areas of loading and yarding off the existing N-2000 and N-3000 roads.

Rock Pits: Rock for this sale will come from the existing N-3000 pit (section 8 6N 4E).

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		**3880**	**4**	
Reconstruction				
Abandonment		**1,230**	**1**	
Bridge Install/Replace				
Culvert Install/Replace (fish)				
Culvert Install/Replace (no fish)	**6**			

There will also be approximately 2000 feet of road maintenance.

Temporary roads: A temporary road is defined in Forest Practice rules as a forest road that is constructed and intended for use during the life of the approved forest practices application. All temporary roads must be abandoned in accordance with WAC 222-24-052(3). The length listed above is also included in the "Construction" and "Abandonment" sections of the chart above.

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map. See also color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description: **The units are in parts of Section 7 and 8, T6N R4E, W.M.**

b. *Distance and direction from nearest town (include road names):* **The proposal lies approximately 25 miles northeast of Woodland, WA.**

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")*

WAU Name	WAU Acres	DNR WAU Acres	Sub-Basin Number	Sub-Basin Acres	DNR Sub-Basin Acres	Proposal Acres in Sub-Basin (estimated)
Lake Merwin	**41,417**	**17,450**	**23**	**2,799**	**1,580**	***105**

The acreages listed above are from DNR /HCP/ WAU data layers. *Note, the proposed acres in sub-basin reflect total gross acres, not net harvestable acres.

13. *Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)*

Known and Observed WAU conditions: The majority of the Lake Merwin WAU is managed for commercial timber production. The DNR manages about 33% of the WAU, and private industrial timber companies manage much of the rest. Some agricultural land and rural residential properties are present around Lake Merwin.

This proposal is one of possibly four FY 2005 regeneration harvests scheduled in the Lake Merwin WAU. There are several other sales either ongoing or recently completed, as shown on the Harvest Unit Adjacency Map. Such sales have incorporated the habitat management/water protection strategies outlined under the Habitat Conservation Plan (HCP). The harvested unit (Coyote Timber Sale) northeast of this proposal has been restocked with native conifer seedlings. DNR policy requires greater than 50% of State forested land base in a WAU be in hydrological mature status of 25 years of age or greater. Currently, about 68% of DNR land within the WAU is classified as hydrologically mature. After harvest, the age of the vegetation over 50% of the vegetation within the WAU will be over 25 years of age (hydrologically mature). This proposal lies below the ROS zone.

Many areas within the WAU are candidates for future regeneration and commercial thinning harvests. Additional roads may be built for forest management activities and additional pit development is expected. The high site potential of this area makes it suitable for continued forest management. Protection of riparian and upland ecosystems has been implemented on the more recent State sales within the WAU (FY 1997 to present). Riparian zones, maintaining critical habitat and hydrological functions, have been utilized where needed. Road abandonment plans address reducing the road miles on State land. These combined mitigation measures should ensure that any activity has minimal environmental impact within the sub-basins and WAU.

Mitigation elements: A variety of mitigation measures have been incorporated into the design of this sale to ensure that the water quality and habitat conservation standards of the HCP will be met. These same measures will be implemented on future sales in the area.

- **RMZs averaging 200 feet wide will be left along one type 1 stream and at least 100 feet wide will be left along one type 4 stream.**
- **A total of 648 leave tree will be left within the proposal area.**
- **Road construction will include culverts and/or ditches as needed to provide drainage onto stable forest floors.**
- **Restrictions for hauling and ground-based yarding will be implemented to protect water quality and soil damage. Restrictions include operating during dry soil conditions and will be suspended if there is a potential for sediment delivery to streams.**
- **Cable yarding will require lead-end suspension on slopes greater than 50%.**
- **Ground yarding restrictions are prescribed to minimize soil impacts including compaction and rutting.**

- **Approximately nine acres of potentially unstable slopes, which include cliff formations and talus slopes, have been excluded from the harvest area or will be protected with leave trees.**

Timber harvest locations in the immediate area follow Department guidelines to ensure that Forest Practices and Forest Resource Plan green-up requirements are met. The largest harvest unit within the proposal area is approximately 35 acres in size. RMZ protection for the major watercourse will continue to provide important riparian habitat and mitigate for potential peak flow events. The combination of site-specific measures for this proposal and overall landscape objectives should not cause adverse environmental impacts.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☒Hilly, ☐Steep Slopes, ☐Mountainous, ☐Other:

1) *General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).*

The Lake Merwin WAU drains into the Lewis River, including segments now inundated by Yale Reservoir and Lake Merwin Reservoir. The WAU covers approximately 41,000 acres, of which about one-third is managed by the State of Washington Department of Natural Resources (DNR). The WAU can be categorized as mountainous, with steep slopes rising out of drainages and upland benches, ridges and peaks. Elevations range from 500 to 3,800-feet. The deep soils found within the WAU allow for high growth potential and typically recover well following natural disturbances. The lower limit of the rain-on-snow (ROS) zone generally occurs between 1,500 to 2,000-feet and the upper limit between 2,500 to 3,000-feet. Most of the WAU falls within the western hemlock, forest vegetation zone. At present, the primary forest type is even-aged Douglas-fir/western hemlock forest. Apart from small isolated areas of agricultural land and residential development, forest resource management is common in the WAU.

2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*

The proposal lies below the ROS zone on moderate to steep upland slopes.

b. What is the steepest slope on the site (approximate percent slope)?

75% slopes exist in small portions of the proposal.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

The acres listed in the soils table below are approximate and for those areas where timber harvest takes place.

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
9615	**Sandy loam**	**2-30**	**46**	**low**	**medium**
9814	**Sandy loam**	**30-65**	**25**	**low**	**medium**
9817	**Rock outcrop complex**	**65-90**	**6**	**high**	**high**

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) *Surface indications:*

Cliff formations and rock talus exist adjacent to the proposal. It is apparent that failures have occurred in the rock strata that have caused rock falls/slides.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

A few of the sub-basins within the Lake Merwin WAU contain cliff formations suggesting that mass wasting has taken place geologically in the form of shallow, rapid landslides. The areas having the highest potential for failure are located in inner gorge V-notch channels and /or concave hollows within the rain-on-snow zone. Some shallow, rapid failures have occurred in adjacent sub-basins on steep slopes after becoming over saturated.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

Small failures exist along portions of an old abandoned grade (this grade is not immediately adjacent to proposal). The failures are assumed to exist since road maintenance has not been performed within the last 20 years.

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*
☒*No* ☐*Yes, describe similarities between the conditions and activities on these sites:*

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

Slope stability protection measures:

- **Approximately nine acres of potentially unstable areas have been excluded from the harvest area or selected as areas for leave trees.**
- **Slopes directly below exposed rock outcrops have been avoided. In addition, no harvesting will take place adjacent to rock talus.**
- **Activity on soil #9817 occurs on the lower phase of this soil. Portions of the area underlain by this soil type were selected as leave tree areas.**
- **All roads will be constructed on side-slopes less than 50%.**

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **Right-of way acres are approximately four.** *Approx. acreage new landings:* **2 acres**
Fill source: **Fill source is native earth material.**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes. Some incidental erosion may occur as a result of this proposal, but should be confined to the associated roads and harvest area. See B. 1. h. below for mitigation.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately one acre of the proposal will be in permanent rocked running surface.

h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Protection measures to reduce erosion associated with roads:

- **Seasonal timing restrictions will be used to minimize road construction activities during wet weather conditions.**
- **Soils exposed during road construction, including any waste areas, will be treated with erosion control measures, such as re-vegetation.**
- **Roads will be maintained as needed to control water runoff and minimize the potential for delivery of sediment to flowing water.**
- **Drainage structures will be properly installed and maintained.**
- **Sediment control measures will be used as necessary during active haul to reduce the potential for sediment delivery to water.**
- **Timing restrictions or temporary road shutdown will be used as necessary during active haul to reduce the potential for sediment delivery to water.**
- **Periodic maintenance and inspection of the road system to insure proper function.**

Protection measures to reduce erosion associated with active logging operation:

- **Ground yarding will be restricted to slopes less than 40%.**
- **Cable yarding areas will maintain lead-end suspension will be required on slopes greater than 50%.**
- **Ground yarding restrictions are prescribed to minimize soil impacts including compaction and rutting.**
- **Skid trails will be water barred as necessary to minimize sediment delivery to flowing water.**

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling,* automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from heavy equipment and dust from vehicle traffic and logging equipment will be emitted as a result of this proposal.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map and forest practice base maps.)*

A fork of Speelyai Creek, a type 1 water, lies to the west of unit 3. A Type 4 water lies between units 1 and 2. Four Type 5 waters exist near or within the proposal (north of unit 2, between units 2 and 3 and within unit 1). All waters flow into Yale Lake. All streams have been typed using the Interim Water Typing criteria in the Forest Practices Rules.

a) Downstream water bodies:

Yale Lake

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Speelyai Creek	**1**	**1**	**200**
Unnamed	**4**	**1**	**100**
Unnamed	**5**	**3**	**N/A**

b) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

- **A 200-foot wide buffer will be left as a RMZ along Speelyai Creek.**
- **The Type 4 water is protected with a 100-foot wide RMZ and leave trees will be left along the Type 5 waters within the units.**

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map.)*
Description (include culverts):

- **No harvesting will occur within 200-feet from Speelyai Creek.**
- **No harvesting will occur within 100-feet from the Type 4 stream.**
- **No harvesting equipment will be allowed within 25-feet of the Type 5 waters.**

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Minimal fill will be used for road construction.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

The sub-basins do include numerous steep head walls and V-notch inner gorge channels within steep terrain located in the rain-on-snow zone. Most of these sites are situated adjacent or near to watercourses, so a high proportion of the eroded material could enter water. Some areas within the sub-basins are rated as having soils that are unstable when disturbed or as having high soil erosion potential.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), and change in channel dimensions)?
☐*No* ☒*Yes, describe changes and possible causes:*

Some channel changes occurred during the 1996 flood event, due to the increased amount of eroded material entering surface waters. A decrease in LOD was also experienced in many channels due to the high water levels during this flood, which flushed large material downstream

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☐*No* ☒*Yes, explain:*

This proposal may cause some minimal increase in sedimentation as a result of road construction. Riparian areas will preserve natural stream channels and water quality.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?

Road miles per square mile within the Lake Merwin WAU is approximately four. Road miles per square mile within sub-basin # 23 is 3.

Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☐*No* ☒*Yes, describe:*

Some roads may intercept surface flow and deliver ditch water to flowing water. This typically occurs on high rain events and is not common adjacent to the proposal.

*11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☒*No* ☐*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

In the winter of 1996, a 100-year event occurred. The rainstorm set rainfall and flood level records in Southwest Washington and Northwestern Oregon. The event caused many shallow mass-wasting events. Many stream channels were affected by this flood event. The full extent of this is not known. Many channels were altered in this event, due to high stream flows with accompanying sediment loads and possibly large woody debris delivery.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal may slightly change the timing/duration/amount of peak flow. Flow rates may increase slightly during low and high flow periods during the first decade after harvest. See B.33a.16 below.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☐*No* ☒*Yes, possible impacts:*

Speelyai Creek may be used as a water source for some residential properties. A small stream between units 1 and 2 was historically used as a water source for a few residential properties. There is one legal easement to tap and transport this water. This creek dries up for portions of the year and as a result, the residential uses have since converted to well water.

A small stream approximately 150 feet east of unit 3 is used as a water source for one individual. This stream will not be affected by harvest operations.

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

Harvesting will occur approximately 200-feet from Speelyai Creek and will not affect Speelyai Creek. The stream between units 1 and 2 has received a 100-foot buffer (both sides) and no activity will occur near this stream that could cause negative water impacts. In addition, care will be taken when working near the existing underground pipe systems.

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) Note protection measures, if any.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water will be collected in the ditches and culverts and discharged onto the forest floor.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Minimal logging slash may enter surface waters.

a) Note protection measures, if any.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

See B.1.h above for additional erosion control measures.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☐*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☐*huckleberry,* ☐*salmonberry,* ☐*salal,* ☒*other:* **oregon grape, sword fern**
☐grass
☐pasture
☐crop or grain
☐wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☐*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☒other types of vegetation: **vine maple**
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

Commercial timber species will be harvested throughout the three units: mainly Douglas-fir, red alder and maple. Approximately 2434 Mbf of timber will be harvested. Leave tree areas, RMZs and younger, non-merchantable timber will be left on site.

1) *Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")*

A small 15-year-old Douglas-fir plantation lies between units 2 and 3. Young alder and fir stands lie to the north of unit 2. Douglas-fir dominated stands, with an average age of 60-years, are adjacent the rest of the units. Hardwoods are prominent in the draws and creek bottoms.

2) *Retention tree plan:*

Leave tree design focused on water quality, visual impacts, potential slope instability and wildlife habitat objectives. Large leave trees clumps and individual trees were retained throughout the units. Some larger dominant trees were retained for legacy purposes and snags were considered in leave tree distribution. Trees with large limbs, diameter class, and crown class, have been selected to meet leave tree requirements. Leave trees will be left along the Type 5 waters within the units. The total number of leave trees for this proposal are 648.

c. List threatened or endangered *plant* species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

- **No entry Riparian Management Zones were placed along the Type 1 and 4 streams to maintain the riparian plant structure.**
- **After harvest, the units will be planted with Douglas-fir seedlings.**
- **Leave trees left in clumps and scattered throughout unit will aid in natural reforestation.**

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon,* ☒other: **winter wrens, owls**
mammals: ☐deer, ☐bear, ☒elk, ☐beaver, ☒other: **coyote, bear**
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☒*talus slopes,* ☐*caves,* ☒*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

This proposal is located within the Lower Columbia River Steelhead and Chinook and Columbia River Chum ESUs. The proposal's riparian protection measures should protect any potential salmonid habitat present.

c. Is the site part of a migration route? If so, explain.
☐*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the Columbia River flyway, which is part of the Pacific Northwest forests. Many neo-tropical birds are closely associated with riparian areas, cliffs, snags and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's Habitat Conservation Plan. Migratory waterfowl also use the Columbia River flyway. The area for this proposal is not generally the type of area used for resting or feeding by migratory waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

- **Leave tree areas (a total of 648 trees) distributed throughout the proposal will provide forest canopy and forest floor habitat.**
- **Snags left on site will continue to provide nesting habitat.**
- **RMZs averaging 200 feet wide adjacent to one type 1 stream and at least 100 feet wide along one type 4 stream will maintain riparian plant structure and stream adjacent habitat.**
- **This activity conforms to the 1992 Forest Resource Plan, the 1997 Habitat Conservation Plan and Forest Practices rules.**

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

Species /Habitat: **talus**	Protection Measures: **talus slopes have been avoided and no harvest will occur within 100-feet from non-forested talus**
Species /Habitat: **cliffs**	Protection Measures: **slopes directly below cliff formations have been avoided**

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal health hazards due to operating heavy equipment and the minor spillage of fuel and lubricating oils are always present with this type of operation. The risk of forest fire may be increased for approximately two years following harvesting due to logging slash.

1) Describe special emergency services that might be required.

Department of Natural Resources, private and rural fire department fire suppression resources. Emergency medical or air ambulance for personnel injuries. Hazardous material spills may require Department of Ecology and/or county assistance.

2) Proposed measures to reduce or control environmental health hazards, if any:

Fire equipment will be required on-site during closed fire season and operations will cease if relative humidity falls below 30%.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Heavy equipment, chain saws, yarding whistle and trucks will produce noise during periods of operation.

3) Proposed measures to reduce or control noise impacts, if any:

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

- **Timber Production, forest management**
- **Rock from rock pits may be sold to other forestland owners for forest road maintenance.**

b. Has the site been used for agriculture? If so, describe.

No

c. Describe any structures on the site.

None

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the site?

Forestland

f. What is the current comprehensive plan designation of the site?

Cowlitz County currently has no plan.

g. If applicable, what is the current shoreline master program designation of the site?

Not Applicable

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No

i. Approximately how many people would reside or work in the completed project?

None

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any:

None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

These harvest units will be reforested with commercial species and retained as forestland.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None

c. Proposed measures to reduce or control housing impacts, if any:

None

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply

b. What views in the immediate vicinity would be altered or obstructed?

The forests will be cleared within the immediate vicinity.

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☐*No* ☒*Yes, viewing location:*

Portions of this proposal will be visible from rural residential properties.

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☐*No* ☒*Yes, scenic corridor name:*

Portions of this proposal will be visible from SR-503 and Yale Lake.

3) How will this proposal affect any views described in 1) or 2) above?

Some forest clearing will be visible.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Leave trees were retained along the southern boundary of units 1 and 2 to provide a screen for residences to the south of the units and from SR-503.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

None

d. Proposed measures to reduce or control light and glare impacts, if any:

None

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Hunting

b. Would the proposed project displace any existing recreational uses? If so, describe:

Recreational activities may be temporarily interrupted during periods of operation on the site.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

See A.12.b.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

No

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No

c. How many parking spaces would the completed project have? How many would the project eliminate?

None

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Some new forest roads will be constructed and some existing roads will be improved. See A.11.c for details.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

There will be no impact from this proposal.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

During harvest, 15-20 vehicle trips per day to the sale area may occur. This will take place for three to four months. Upon completion of harvest activities, traffic levels will resume back to normal densities.

g. Proposed measures to reduce or control transportation impacts, if any:

None

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No

b. Proposed measures to reduce or control direct impacts on public services, if any.

None

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity, which might be needed.

None

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: _____ Date: _____
Title

Reviewed by: _____ Date: _____
State Lands Assistant Manager

Comments: _____